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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,532	09/29/2003	Jong-Yoon Hwang	678-508 CON	1828

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EXAMINER

D AGOSTA, STEPHEN M

ART UNIT PAPER NUMBER

2617

DATE MAILED: 04/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/673,532

Applicant(s)

HWANG ET AL.

Examiner

Stephen M. D'Agosta

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 and 25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 1-4, 8-22 and 25 is/are allowed.
- 6) ☒ Claim(s) 5-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

Applicant's arguments, see Notice of Appeal, filed 4-11-2006, with respect to all claims have been fully considered and are persuasive. The rejection has been withdrawn and a new rejection is found below.

1. First and foremost, the examiner has added a Double Patent rejection since the claims of this Continuation and its parent patent read on each other.
2. The examiner has added a USC 112 rejection regarding the terms "good", "bad", "sufficient" and "insufficient" since these are relative terms of degree. While the examiner understands what the applicant is conveying, there is no technical/empirical threshold or range given (in the claims) as when the applicant determines a good/bad value.
3. The examiner believes the novel concept found in the claims is the disclosure of calculating a ratio of power control bit energy to non-power control bit(s) energy and comparing them to make power control decisions. Claims that do not disclose this read on the prior art of record.
4. As a minor point, the examiner's previous USC 112 regarding the term "energy" was obviated when the applicant re-wrote this term as "power". The examiner notes that a few independent claims still contain this term. The applicant should consider making all claims consistent and change these remaining few to "power". The examiner interprets, for all claims, that the "power" of the bits is determined.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-22 and 25 rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-11 of U.S. Patent No. 6,725,054. Although the conflicting claims are not identical, they are not patentably distinct from each other because both deal with cellular mobile systems whereby ratios of bit energies are compared and influence power control decisions/operations.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. The terms "good/bad" and "sufficient/insufficient" and "pass/uncertain" in **claims 5-10, 22 and 25** are relative terms that render the claims indefinite. These terms are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the **scope** of the invention. The applicant should either state a range which bounds these terms (eg. good should be replaced with a "range of values" or a "threshold value") or altogether remove them (via a re-write).

2. **Claims 1, 4-5 and 11** rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "energy" has been changed to "power" for other claims, per a previous Office Action. For consistency, it should be changed for these claims as well.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-7 rejected under 35 U.S.C. 103(a) as being unpatentable over Holtzman et al. US 6,788,685 and further in view of Wheatley, III et al. US 5,461,639.

As per **claim 5**, Holtzman teaches a method of controlling forward link transmission power in a mobile communication system capable of discontinuous transmission mode (figure 1 and C3, L1-8), where a power control command for controlling the forward link transmission power, the method comprising:

a first step of determining whether an energy of power control bits of a received frame is more than a first threshold value, said first threshold value determined as a minimum value for receiving data;

a second step of determining that a channel state is good if the first step determines that the energy of the power control bits is more than the first threshold value AND a third step of determining that the channel state is bad if the first step determines that the energy of the power control bits is less than the first threshold value:

Memory 222 provides the energy of the power control bits and the traffic channel energy for each power control group in the frame to power control bit filter 224. Power control bit filter computes a filtered power control bit energy value in accordance with equation (5) above. The filtered power control bit energy is provided to power control bit generator 226. The filtered power control bit energy is compared against a predetermined energy threshold in power control bit generator 226. If the filtered power control bit energy is less than the threshold then a power control command indicating that the base station should increase the transmission energy of the traffic channel is generated. If the filtered power control bit energy is greater than the threshold then a power control command indicating that the base station should decrease the transmission energy of the traffic channel is generated. (C15, L65 to C16, L13),

But is silent on a terminal generates the command.

The examiner notes that it is well known in the art for the BTS to perform control functions and/or be assisted by the mobile (eg. MAHO) whereby the mobile makes measurements and sends them to the BTS. Therefore Holtman's design would be modified by one skilled to use well known mobile measuring concepts to inform the BTS that it needs to increase/decrease power of the forward channel. Further to this point is **Wheatley**, who teaches the mobile sending commands back to the BTS for it to increase or decrease power:

The fast forward power control process of the present invention enables a mobile to instruct a base station to change its power output at a faster rate. This process enables the mobile to send a power change command every frame of data without degrading the voice or data quality. (C7, L20-27 and C3, L40-50) .

It would have been obvious to one skilled in the art at the time of the invention to modify Holtzman, such that the mobile sends back commands for the BTS to increase or decrease power, to provide feedback means for the mobile to command the BTS so that it better receives data via optimal forward channel power control.

As per **claim 6**, Holtzman teaches claim 5, further comprising using CRC information/algorithms (C3, L60 to C4, L10. Also see figure 1) **but is silent on**

a fourth step of determining whether data decoded prior to the first step has been correctly decoded if the received frame includes cyclic redundancy check (CRC) information; and

a fifth step of determining that the frame is good if it is determined that the data has been correctly decoded at the fourth step, ~~or performing the first step if it is determined that the data has not been correctly decoded.~~

The examiner takes **Official Notice** that one skilled understands that a CRC failure means the frame was not received properly and should be discarded. Hence one skilled would not perform measuring of the energy bits (eg. the first step of claim 5)

Art Unit: 2617

since the data is corrupt and may give false readings. Therefore, one skilled would perform CRC prior to performing a first step AND determine the frame is good if the data has been correctly decoded. *The font that has been struck through has not been examined since the claim contains an "OR" so that portion is optional.*

It would have been obvious to one skilled in the art at the time of the invention to modify Holtzman, such that fourth/fifth steps are used for CRC checks and decoding, to provide means for only performing the first step on successfully CRC-checked frames.

As per **claim 7**, Holtzman teaches A forward power control method for performing forward link transmission power control using a power control command received from a terminal in a mobile communication system capable of discontinuous transmission mode (C3, L1-8), **but is silent on** the method comprising:

a first step of transmitting power control bits for power control decrease if a channel state signal is "sufficient" is received from the terminal; and

a second step of transmitting power control bits for powercontrol increase if a channel state signal is "insufficient" is received from the terminal.

Wheatley teaches the mobile sending commands back to the BTS for it to increase or decrease power:

The fast forward power control process of the present invention enables a mobile to instruct a base station to change its power output at a faster rate. This process enables the mobile to send a power change command every frame of data without degrading the voice or data quality. (C7, L20-27 and C3, L40-50) .

It would have been obvious to one skilled in the art at the time of the invention to modify Holtzman, such that the mobile sends back commands for the BTS to increase or decrease power, to provide feedback means for the mobile to command the BTS so that it better receives data via optimal forward channel power control.

Allowable Subject Matter

Claims 1-4, 8-22 and 25 allowed.

Claim 1 is newly allowable since the prior art does not teach:

“...providing a ratio of the energy of power control bits to energy of the non-power control bits and generating a power control command based on the ratio...”.

The examiner interprets that all the non-power control bits are used/required when performing the calculation.

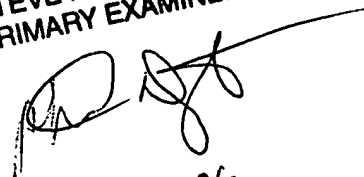
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. D'Agosta whose telephone number is 571-272-7862. The examiner can normally be reached on M-F, 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Trost can be reached on 571-272-7872. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

STEVE M. D'AGOSTA
PRIMARY EXAMINER



4-17-2006